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METHOD OF TEST FOR DETERMINATION OF WET VOLUME OF ASBESTOS FIBRE

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MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 1

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Indian Standard

METHOD OF TEST FOR DETERMINATION OF WET VOLUME OF ASBESTOS FIBRE

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 13 August 1969, after the draft finalized by the Cement and Concrete Sectional Committee had been approved by the Civil Engineering Division Council.

0.2 A series of standards on testing procedures of asbestos fibre are being formulated so as to provide standard methods for obtaining physical and chemical properties of asbestos fibre which is used for manufacturing various asbestos cement (AC) products like AC sheets, AC pipes, etc. These testing procedures will be useful both for mine owners and the manufacturers of AC products provided they have the facilities to make these tests with reasonable accuracy and the personnel with the required degree of laboratory experience. The method of test for the various properties of asbestos fibre which will give the required strength for the manufacturing of AC products will be useful for utilizing indigenous asbestos for various AC products.

0.2.1 This method of test is one of the tests which will be useful for defining the asbestos fibre fit for the use for manufacturing of AC products.

0.3 In the formulation of this standard due weightage has been given to international co-ordination among the standards and practices prevailing in different countries in addition to relating it to the practices in the field in this country. This has been met by basing the standard on ' Testing procedure for chrysotile asbestos fibre ' jointly published by American Textile Institute, Mineral Fibre Products Bureau and Quebec Asbestos Mining Association.

0.4 This standard is one of the three Indian Standards on testing of asbestos fibre published so far. IS : 4844-1968* and IS : 5328-1969† are the other two standards published under this series.

0.5 In reporting the result of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS : 2 - 1960‡.

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*Method of sampling and preparation of asbestos fibre for laboratory test purposes.

†Method of test for determination of chemical composition of asbestos fibre.

‡Rules for rounding off numerical values (*revised*).

1. SCOPE

1.1 This standard prescribes a method of test designed to appraise all grades of asbestos fibre in terms of its buoyancy in water.

2. APPARATUS

2.1 Balance — It shall be capable of weighing more than 100 g to the accuracy of ± 0·05 g.

2.2 Graduated Glass Cylinder — It shall be of 2 000 ml capacity conforming to IS : 878 - 1956*, with a suitable stopper. The stopper shall be such as to remain in position during the revolution of the cylinder in the inverter (*see* **2.3**).

2.3 Inverter — It shall be mechanically driven, capable of rotating the graduated glass cylinder (*see* **2.2**) at the rate of 30 rev/min, with the axis of rotation passing through the centre of the cylinder.

3. SAMPLING

3.1 The sample shall be the laboratory test sample, sampled in accordance with IS : 4844 - 1968†.

4. PROCEDURE

4.1 Carefully weigh 25 g of fibre from the sample (*see* **3.1**). Add distilled water at 27° ± 2°C to the cylinder, filling to the 1 000-ml mark. Place the required sample of asbestos in the cylinder and add distilled water to the 2 000-ml mark. Place the cylinder carefully in the mechanically driven inverter and rotate 30 times in one minute. After the initial shaking cycle let the cylinder stand for ten minutes and then repeat the shaking cycle making 30 complete inversions in one minute (*see* Note). Replace the cylinder on a vibration-free table.

NOTE — A complete inversion consists of a rotation through 360° to the original vertical position.

5. RECORDING OF RESULT

5.1 Record in ml the wet volume of the fibre suspended in water after two hours. The weight of the fibre taken in the test as per **4.1** shall also be reported.

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*Specification for graduated measuring cylinders.

†Method of sampling and preparation of asbestos fibre for laboratory test purposes.

(*Continued from page* 2)

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